product data

ECOSURE HSE 32

Description: **Biodegradable, low-toxicity high performance AW hydraulic fluid**, ISO Class HEES, based on saturated synthetic ester.

Use: Hydraulic applications in sensitive environments, especially marine, where there is the potential for fluid loss to occur and where water contamination is below 1000ppm. Designed for an exceptionally wide operating temperature range, protecting equipment from –35°C to over +100°C (-31°F to +212°F). A highly thermally stable top-tier fluid that provides superior oxidation protection under severe conditions, excellent water separation, good long term filterability, extended fluid lifetime, longer pump life and low downtime.

Characteristics:

Appearance	Pale yellow oil
Viscosity @ 40°C	Approx. 32cSts
Viscosity Index	150
ISO VG	32
Density @ 15°C	Approx. 0.92 kg / ltr
Pour point	-48°C (-54°F)
Flashpoint	Above 250°C (482°F)
Shelf life	Expected indefinite in original sealed containers.

Performance Data:

1. **Ecosure HSE 32** will outperform other biodegradable hydraulic fluids in the ASTM D-943 dry TOST oxidation test, easily exceeding 2500hrs and giving performance superior to many mineral oil based fluids.

2. **Ecosure HSE 32** will biodegrade if accidentally released. It has an ultimate biodegradability of greater than 60% in the 28-day OECD 301B test.

3. **Ecosure HSE 32** has low toxicity in the marine environment compared to mineral oil based hydraulic fluids. It is classified as Practically Non-Toxic based on the following results:

Fish	LC_{50} exceeds 100 mg/l
Daphnia	EC_{50} exceeds 100 mg/l
Algae	EC_{50} = 200 mg/l
Shrimp	LC_{50} exceeds 1000 mg/l

4. **Ecosure HSE 32** gives excellent pump protection to meet the demands of modern hydraulic systems. It easily passes the DIN 51389-2 Vickers V104C pump test as required by DIN 51524-2 & 3. This is generally regarded as more severe than the ASTM D-2882 pump test for industrial hydraulic equipment. It passes FZG Load Stage 12, exceeding the requirements of DIN 51524-2 & 3.

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product data

ECOSURE HSE 32 cont'd

Performance Data:

5. **Ecosure HSE 32** provides excellent corrosion protection of the metals commonly used in hydraulic systems, 'passing' the ASTM D-130 copper corrosion test (1b max) and the ASTM D-665 rust tests for fresh and salt water. It is non-corrosive to yellow metals such as brass and copper even in the presence of salt water.

6. **Ecosure HSE 32** is compatible with the following elastomeric seal materials: Nitrile, Viton®, Teflon, Nylon and PTFE. Depending on elastomer grade, it is also compatible with some silicone, polyacrylate and polyurethane elastomers. It should not be used in systems with neoprene, butyl rubber and EPDM.

7. **Ecosure HSE 32** gives superior demulsification performance to many biodegradable hydraulic fluids especially when mixed with seawater.

8. **Ecosure HSE 32** outperforms similar products in the Rolls Royce 1006 Hydrolytic Stability test, resisting hydrolytic degradation from water contamination. In common with other biodegradable ester fluids, water content must be kept below 1000 ppm.

9. **Anti-foam:** passes the foam test requirements of DIN 51524.

10. **Ecosure HSE 32** passes the air release requirements of DIN 51524 reducing the risk of pump damage through cavitation.

11. **Ecosure HSE 32** passes the BFPA P51 Filtration test in the presence of water and is supplied to NAS 8 Cleanliness or ISO 19/17/14 (ISO 4406). In common with all hydraulic fluids, it should be filled via a filter and re-circulated before use.

12. **Ecosure HSE 32** uses state-of-the-art ashless zinc-free technology. In accordance with good practice, when changing to **Ecosure HSE 32**, carry-over of old fluid should be limited to 5%. Where the old fluid has oxidized, flushing should be considered and an early filter change may be necessary due to the surface cleaning properties of synthetic esters.

13. **Ecosure HSE 32** exceeds the Viscosity Index requirements of DIN 51524-3 and therefore has a good viscosity temperature profile. It does not use Viscosity Index Improvers and will not shear down in use. It passes the DIN 51350-6 KRL Shear Test.

14. **Ecosure HSE 32** uses components that are TSCA registered.

15. **Ecosure HSE 32** can be burned under safe controlled conditions.

Notes: This product should only be used for the applications specified. The supplier cannot accept responsibility if it is used in any other applications.

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the quality touch

FM 1851 EMS 40717

ACCREDITED TO THE ISO 9001 QUALITY STANDARD AND THE ISO 14001 ENVIRONMENTAL MANAGEMENT STANDARD

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